remains problematic. Preoperative variables correlate with increased morbidity and mortality, yet no easily implemented tool exists to stratify patients. We determined the relationship between our fully implemented frailty-based bedside Risk Analysis Index (RAI) and complications after carotid endarterectomy (CEA).

Methods: Variables of frailty RAI for patients undergoing CEA in American College of Surgeons National Surgical Quality Improvement Project (NSQIP) database (2005-2011) were matched to preoperative NSQIP variables, and outcomes including mortality, stroke, and length of stay were analyzed. We further analyzed patients who were symptomatic and asymptomatic before CEA.

Results: A total of 44,832 patients undergoing CEA were analyzed, of which 27,136 (60.5%) were asymptomatic and 17,696 (39.5%) were symptomatic. RAI demonstrated increasing risk of stroke and death based on risk stratification: low risk (0-10), 1.9%; high risk (>10), 5.2%. Increasing frailty RAI score correlated with increasing mortality, stroke, and length of stay ($P < .01$; Fig). The majority of patients undergoing CEA scored low on the RAI (87.5% symptomatic/94.4% asymptomatic).

Conclusions: Frailty is an independent predictor of increased mortality, stroke, and length of stay after CEA. An easily implemented RAI holds the potential to identify a limited subset of patients who are at higher risk for postoperative complications and may not benefit from CEA.

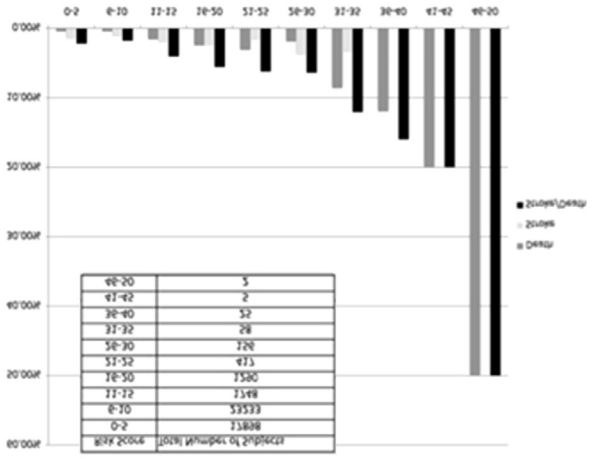

Fig. Stroke and death rate for total NSQIP CEA group based on frailty RAI score.

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VS4.

Anatomical Exposure of Thoracic Outlet With Supraclavicular Approach and Resection of Cervical Rib

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Background: Thoracic outlet syndrome is known for complex anatomy of this region. The scalene triangle is a narrow space with neurovascular bundle emerging from it with multiple anatomical variations described. Depending on the requirement, rib resection (cervical, first, or both), scalenectomy, and various degrees of neurolysis are performed in different patients. Various approaches had been described for this anatomical region, including supraclavicular, paraclavicular. and transaxillary.

Technical description: This patient had sign symptoms consistent with arterial and neurogenic thoracic outlet syndrome. Preoperative computed tomography showed a complete right cervical rib causing arterial and neural compression. The video view has been adjusted as per view to the main operator standing on right side of patient. The operation was performed in following steps: (1) supraclavicular incision; (2) raising superior and inferior subplatysmal flaps; (3) dissection of scalene pad of fat; (4) dissection of phrenic nerve; (5) anterior scalenectomy; (6) dissection of subclavian artery, neurolysis including resection of multiple muscle slips interdigitating between brachial plexus; (7) resection of cervical rib; (8) hemostasis and wound closure. In our experience 42 thoracic outlet syndrome decompressions have been performed between January 2011 and September 2013 (18 arterial, 12 arterial and neurologic, 8 neurologic and venous, and 4 venous thoracic outlet syndromes). In 25 cases, the supraclavicular approach was used, whereas 17 cases involved paraclavicular approach. There was 7% perioperative morbidity with no mortality. Although operative steps are familiar for most surgeons who regularly participate in this surgery, a video demonstration would be useful for trainees to understand the principles of the operation.

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SS18

The Effect of Beta Blockade on Operative Mortality: Harmful or Helpful?

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Objectives: The use of perioperative pharmacologic β-blockade (BB) in patients with low risk of myocardial ischemic events undergoing non-cardiac surgery (NCS) is controversial because of the risk of stroke and hypotension. Published studies have not shown consistent benefit in this cohort. The present investigation was undertaken to determine the perioperative effect of BB on NCS patients.

Methods: This is a retrospective observational analysis of operative patients in Veterans Affairs (VA) hospitals from October 2009 through September 2013. BB was started 8 hours before surgery and continued postoperatively. Data from the VA electronic database included demographics, diagnosis and procedure codes, medications, perioperative laboratory values, and date of death. A 4-point cardiac risk score was calculated by assigning 1 point each for renal failure, coronary disease, diabetes, and surgery in a major body cavity. End points were death in-hospital and ≤30 days. Previously validated linear regression models for all hospitalized acute